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EXAMINER

CHUI, MEI PING

ART UNIT	PAPER NUMBER
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1616

MAIL DATE	DELIVERY MODE
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10/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/543,039

Applicant(s)

HIROKAWA ET AL.

Examiner

Helen Mei-Ping Chui

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/23/2005 and 07/21/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Action

The Examiner acknowledges receipt of application number 10/543,039 filed on 07/21/2005. Claims 1-11 are presented for examination on the merits for patentability.

Notes to Applicant

It is noted that claim 4 is ended by two commas. Applicant is required to correct the typographical error.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. All dependent claims are included in this rejection.

Independent claim 1 recites the limitation for the water dispersible granule comprising an "agricultural chemical technical product". It is unclear what the intended limitation of "agricultural chemical technical product" is. It is unclear what "technical product" encompasses,

Art Unit: 1616

i.e. one agricultural chemical agent or two agricultural chemical agents, for example, and what does the agricultural technical product includes other than the agrochemicals disclose in the instant specification; therefore, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus it renders the claim indefinite.

Claims 2-11 are rejected because they depend from claim 1; thus incorporate their limitation.

Claim 7 recites that the water dispersible granule further comprising at least “one of formaldehyde condensates of aromatic sulfonates and lignosulfonates”, and its dependent claim 8 recites “the ratio of formaldehyde condensates of aromatic sulfonates and lignosulfonates is 5 to 25 % by mass” therein. It is unclear that whether the granule comprises either formaldehyde condensates of aromatic sulfonates or lignosulfonates; or the granule comprises both formaldehyde condensates of aromatic sulfonates and lignosulfonates. The examiner suggests using Markush language for claim 7.

Claim 11 recites the limitation “the formaldehyde condensates of aromatic sulfonates, the lignosulfonates” according to claim 9, which is further, depended from claim 1 or 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites an agricultural and horticultural water dispersible granule comprising N-acylmethyлтаurate, and its dependent claim 11 recites said agricultural and horticultural water

Art Unit: 1616

dispersible granule comprises N-acyltaurate (see claim 11, line 5). Thus claim 11 is lack of antecedent basis for N-acyltaurate. It appears that applicant is intending to claim N-acylmethyltaurate and this appears to be a typographical error.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. **Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrof et al. (U. S. Patent Application Publication No. 2004/0266626) in view of Becher et al. (U. S. Patent 6,908,882).**

Applicant Claims

Applicants claim a water dispersible granule comprising an agricultural chemical compound, an adsorbent carrier, and a salt of N-acylamino acid, wherein said N-acyl group of the amino acid has 8 to 24 carbon atoms.

Determination of the scope and content of the prior art (MPEP 2141.01)

Schrof et al. teach a crop protection formulation in solid or dispersion form, which is able to disperse in an aqueous medium (page 2, paragraph 0015, line 1-3 and 7; page 9, paragraph 0100-0101). Schrof et al. also teach the dispersion of the crop protection formulation is dried to obtain the solid form of crop protection formulation (page 10, paragraph 0140, line 1-4).

Schrof et al. teach that the crop protection agent consists of herbicides, pesticides and fungicides (page 2, paragraph 0015, line 1-7). Schrof et al. also teach the preferred crop protection agent, i.e. benfuresate (page 4, paragraph 0061, left column: line 24), cyhalofop (page 4, paragraph 0061, right column: line 47), dimepiperate (page 5, paragraph 0061, left column: line 28), dimethametryn (page 5, paragraph 0061, left column: line 29), dithiopyr (page 5, paragraph 0061, left column: line 42), esprocarb (page 3, paragraph 0061, left column: line 51-52), pretilachlor (page 6, paragraph 0061, right column: line 12).

Schrof et al. teach that coated granules can be prepared by binding the solid crop protection formulation together with solid carriers (page 12, paragraph 0173, line 1-3), wherein

Art Unit: 1616

said solid carriers are mineral earths, i.e. silicas, silicates, clay, diatomaceous earth (page 12, paragraph 0173, line 3-6).

Becher et al. teach a herbicidal composition having two surfactants, wherein the second surfactant is an anionic N-acyl derivative of an amino acid or a salt thereof (column 3, line 11-13). Becher et al. also teach that the composition can be a dry solid formulation, i.e. granule that is water-dispersible (column 7, line 51-54).

Becher et al. teach the second surfactant has a hydrophobic C₈₋₂₄ acyl moiety derived from a fatty acid (column 6, line 2-5), i.e. lauroyl, myristoyl, palmitoyl, linoleoyl, linolenoyl, stearoyl or oleoyl (column 6, line 15-16).

Becher et al. teach that the second surfactant is in the form of an acid or a salt having a low molecular weight cationic counter ion, wherein said cationic counter ion can be an alkali metal, i.e. sodium or potassium, an ammonium, or a C₁₋₄ organic ammonium cation (column 6, line 23-28).

Becher et al. also teach the amino acid moiety of said N-acyl amino acid includes sarcosine (column 6, line 42), glutamic acid (column 6, line 48), alanine, aspartic acid, glycine, isoleucine, leucine and valine (column 6, line 59-61).

Becher et al. also teach that the herbicide composition can also contain one or more additional herbicidal active ingredients other than glyphosate (column 7, line 63-65).

***Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)***

Schrof et al. do not teach the solid crop formulation comprising N-acylamino acid.

***Finding of prima facie obviousness Rational and Motivation
(MPEP 2142-2143)***

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Schrof et al. and Becher et al. and utilize an acylated amino acid or its derivatives as surfactant, i.e. N-acylated glycine or N-acylated sarcosine, together with an agricultural chemical compound and a carrier, to obtain the instantly claimed water dispersible granule.

One of ordinary skill would have been motivated to include a surfactant into the water dispersible granule, with a reasonable expectation of success because the presence of said anionic N-acylamino acid surfactant with the agricultural chemical compound, which has been dissolved in water, can help the retention and penetration of said agricultural chemical compound into the treated plants; thus enhances the herbicidal efficacy of the formulation, as suggested by Schrof et al. and Becher et al.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because the combined teachings of the prior art fairly suggests the instant claims.

Art Unit: 1616

It is noted that the obviousness rejection, with respect to claims 1 and 4, by Schrof et al. is also based on the fact that a chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present (see MPEP 2112.01: Part II and also see *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the melting or softening point (70 °C or below) of the agricultural chemical technical product, as claimed in instant claim 1, is also necessarily present in the crop protection agents, as taught in the prior art, set forth above.

2. **Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrof et al. (U. S. Patent Application Publication No. 2004/0266626) in view of Becher et al. (U. S. Patent 6,908,882), and further in view of Ogawa et al. (U. S. Patent No. 5,945,114).**

Notes to the Applicant

It is noted to the Applicant that claims 7 and 8 recite that said water dispersible granule further comprising formaldehyde condensates of aromatic sulfonates and lignosulfonates. Due to the aforementioned rejection for claims 7 and 8 under 35 U.S.C. 112, second paragraph for indefinite; for examination purposes, the Examiner interprets the water dispersible granule further comprising at least one of “formaldehyde condensates of aromatic sulfonates and

Art Unit: 1616

lignosulfonates” recite in claims 7 and 8 as **said water dispersible granule further comprising selected from the group consisting of formaldehyde condensates of aromatic sulfonates and lignosulfonates**” for the following rejection.

Applicant Claims

Applicants claim a water dispersible granule comprising an agricultural chemical compound, an adsorbent carrier, a salt of N-acylamino acid, and further comprises formaldehyde condensates of aromatic sulfonates or lignosulfonates, wherein the water dispersible granule contains 10-60 %, 10-80 %, 10-30 % and 5-25 % by mass of the agricultural chemical compound, the adsorbent carrier, the N-acylamino acid, and the formaldehyde condensates of aromatic sulfonates or lignosulfonates, respectively.

Determination of the scope and content of the prior art (MPEP 2141.01)

The teachings of Schrof et al. and Becher et al. have been set forth above. Essentially, Schrof et al. teach a solid crop formulation comprises a crop protection agent and a solid carrier (page 12, paragraph 0173, line 1-3), wherein said solid carrier can be mineral earths, i.e. silicas, silicates, clay and diatomaceous earth (page 12, paragraph 0173, line 3-6). Schrof et al. further teach surfactants, i.e. condensates of sulfonated naphthalene with formaldehyde (page 12, paragraph 0170, line 7-9), are suitable additives in the dispersion formulation.

Art Unit: 1616

Schrof et al. teach the dispersion of the crop protection formulation is dried to obtain the solid form of crop protection formulation (page 10, paragraph 0140, line 1-4). Schrof et al. also teach that the concentration of the crop protection agent in said dispersion formation can be varied, preferably, from 0.01 to 95 % by weight (page.12, paragraph 0174, line 1-5).

Becher et al. teach a water-dispersible herbicidal granule having two surfactants, wherein the second surfactant is an anionic N-acyl derivative of an amino acid or a salt thereof (column 3, line 11-13 and column 7, line 51-54).

Becher et al. further implicitly teach the second surfactant (N-acylamino acid) is present in the dry water-dispersible composition from about 0.1 % to 22 % by weight based on the weight ratio between the first surfactant and the second surfactant (N-acylamino acid) is about 1:5 to about 5:1 (column 14, claim 23), the weight ratio between the total surfactants and glyphosate acid is about 1:6 to about 1:2 (column 14, claim 25), and the weight of glyphosate acid presents in said dry water-dispersible composition is about 5 % to about 80 % (column 6, claim 31).

Ogawa et al. teach a water dispersible granule comprising a pesticide having a melting point not more than 70 °C, a carrier and a surface-active agent (column 1, line 47-50 and column 3, line 12-13).

Ogawa et al. teach that the carrier used in said water dispersible granule can be a mineral carrier, i.e. clay, diatomite or attapulgite (column 3, line 12-13), which is present in the amount between 0.1 to 85 % by weight based on the weight of the granule (column 3, line 14-17).

Art Unit: 1616

Ogawa et al. teach the surface active agent includes those can emulsify and disperse the pesticide. Example such as the anionic surfactant, i.e. sodium salt of naphthalenesulfonic acid/formalin condensate or lignosulfonates (column 2, line 27 and 30-31), which is present in 5 to 30 %, preferably 6 to 20 %, by weight based on the weight of said water dispersible granule (column 2, line 43-46).

Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)

The combined teachings of Schrof et al. and Becher et al. do not teach the concentrations of the carrier and anionic surfactant, i.e. formaldehyde condensates of aromatic sulfonates or lignosulfonates, present in the granule; however, Becher et al. teach N-acylamino acid and its amount present in the granule.

Finding of prima facie obviousness Rational and Motivation
(MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teachings of Schrof et al. and Becher et al. set forth above, and further to combine the teaching of Ogawa et al. to adjust the appropriated amount of mineral carrier and additional anionic surfactant that is necessary for obtaining the instantly claimed water dispersible granule.

Art Unit: 1616

One of ordinary skill would have been motivated to include a mineral carrier, i.e. silicas, clay, diatomaceous earth or attapulgite, and an additional anionic surfactant other than N-acyl amino acid, i.e. condensates of sulfonated naphthalene with formaldehyde or lignosulfonates, into the water dispersible granule, with a reasonable expectation of success because the presence of said mineral carrier and said anionic surfactant can help to formulate the water dispersible granule, that is normally difficult to make when containing an agricultural chemical compound which has a low melting or softening point. Thus, the mineral carrier and anionic surfactant increase the disintegration and suspensibility of said granule in water, as well as provide the storage stability for said water dispersible granule, as suggested by Schrof et al, Becher et al. and Ogawa et al.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because the combined teachings of the prior art fairly suggests the instant claims.

3. **Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrof et al. (U. S. Patent Application Publication No. 2004/0266626) in view of Becher et al. (U. S. Patent 6,908,882), and further in view of Alt, G. H. (U. S. Patent No. 4,600,433).**

Notes to the Applicant

Art Unit: 1616

It is noted to the Applicant that claim 11 recites that the ratio of "N-acyltaurate" is 0.5 to 10 % by mass relative to a total mass of said granule. Due to the aforementioned rejection for claim 11 under 35 U.S.C. 112, second paragraph for indefinite; for examination purposes, the Examiner interprets the "N-acyltaurate" recites in claim 11 as "**N-methylacyltaurate**" for the following rejection.

Applicant Claims

Applicants claim a water dispersible granule comprising an agricultural chemical compound, a salt of N-acylamino acid and an adsorbent carrier. The granule further comprises an N-acylmethyltaurate, wherein said N-acyl group of the methyltaurate has 8 to 24 carbon atoms, and the ratio between the N-acylmethyltaurate and the total mass of said granule is 0.5 to 10 % by mass.

Determination of the scope and content of the prior art (MPEP 2141.01)

The teachings of Schrof et al. and Becher et al. have been set forth above. Essentially, Schrof et al. teach a solid crop protection formulation in coated granule form, which is able to disperse in an aqueous medium (page 2, paragraph 0015, line 1-3 and 7; page 9, paragraph 0100-0101 and page 10, paragraph 0140, line 1-4). Schrof et al. also teach the formulation comprises a crop protection agent, as set forth above, and solid carriers (page 12, paragraph 0173, line 1-3).

Art Unit: 1616

Becher et al. teach a water-dispersible herbicidal granule having two surfactants, wherein the second surfactant is an anionic N-acyl derivative of an amino acid or a salt thereof (column 3, line 11-13 and column 7, line 51-54).

Alt, G. H. teaches a herbicidal composition comprising an active ingredient with an adjuvant, i.e. a wetting agent to provide a composition in the form of finely divided particulate solids or granule (column 15, line 25-33).

Alt, G. H. also specifically teach a wettable powder which contains 1 % by weight of sodium N-methyl-N-oleyl-taurate in the composition, which oleyl is known to have 18 carbon atoms (column 19, Table Part III: see Wettable Powders).

Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)

The combined teachings of Schrof et al. and Becher et al. do not teach N-acylamino acid and N-acylmethyltaurate, as well as its amount presence in the granule.

Finding of prima facie obviousness Rational and Motivation
(MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teachings of Schrof et al. and Becher et al. set forth above,

Art Unit: 1616

and further to combine the teaching of Alt, G. H. and utilize N-acylmethyltaurate, as a wetting agent or as a surface-active agent, to obtain the instantly claimed water dispersible granule.

One of ordinary skill would have been motivated to include an adjuvant, i.e. a wetting agent or a surface-active agent, into the water dispersible granule, with a reasonable expectation of success because the presence of said N-acylamino acid surfactant and N-acylmethyltaurate in sufficient amount would help the agricultural chemical compound be readily dispersible in water, and, at the same time, provide a better penetration of said agricultural chemical compound onto the treated plants. Thus greatly enhances the herbicidal efficacy of the formulation as suggested by Schrof et al. and Becher et al. and Alt, G. H.

Therefore, the claimed invention, as a whole, would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, because the combined teachings of the prior art fairly suggests the instant claims.

Conclusion

No claims are allowed.

Contact Information

Any inquiry concerning this communication from the Examiner should direct to Helen Mei-Ping Chui whose telephone number is 571-272-9078. The examiner can normally be

Art Unit: 1616

reached on Monday-Thursday (7:30 am – 5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where the application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either PRIVATE PAIR or PUBLIC PAIR. Status information for unpublished applications is available through PRIVATE PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the PRIVATE PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sharmila Gollamudi Landau

Primary Examiner

Art Unit 1616